Serial No.: 10/772,186
Group Art Unit: 2613

REMARKS

Allowable Subject Matter

Claims 4-5, 9-10, 17-20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The following is a statement of reasons for the indication of allowable subject matter:

> "The prior art of record fail to anticipate or render obvious the following limitations as claimed:
>
> "the processor unit is arranged for calculating pixel column positions for desired horizontal frame edges of each displayed individual video image, and for determining a horizontal scale for each displayed individual video image based on the calculated pixel column positions" as recited in claims 4 and 17;
>
> "wherein the display unit is arranged for effecting a change in the horizontal span of each displayed individual video image without changing a vertical span of each displayed individual video image" as recited in claims 5 and 18;
>
> "wherein the distance sensor unit comprises a pair of sensor elements associated with each location camera, and wherein the sensor elements of the pair are arranged for sensing distances of closest objects from the associated location camera along opposite vertical edges of the field of view said associated location camera" as recited in claims 9 and 19."

Applicant appreciates the Examiner's diligence in indicating allowable subject matter and withdrawing the previous rejections, but respectfully submits that claims 1-28 are believed to contain allowable subject matter for the reasons explained below.

Applicant also respectfully submits for the record that the claims are allowable because of the elements in each claim in combination with the claim limitations noted by the Examiner.

Claim Amendments

Claims 1 and 14 have been amended to add the conjunction "and", which had been inadvertently omitted.

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Claim Rejections - 35 USC §103

Claims 1-2, 11-12, 14-16, 21-22 are rejected under 35 U.S.C. §103(a) as being unpatentable over Baker (US 2004/0027451, hereinafter "Baker").

Regarding claim 1, Applicant respectfully traverse the rejections since the Applicant's claimed combination, as exemplified in claim 1, includes the limitation not disclosed in Baker of:

> "a distance sensor unit for sensing distances of closest objects in one or more overlap areas between field of views of the location cameras from the two or more location cameras covering each respective overlap area;"

The Examiner states in the Office Action:

> "Re claim 1, Baker discloses a system...comprising:
>
> a distance sensor unit for sensing distances of closest objects in one or more overlap areas between field of views of the location cameras from the two or more location cameras covering each respective overlap area (fig. 10: 1038, para 0160, 0174;" [deletion for clarity]

It is respectfully submitted that Baker provides a system for "Panoramic Image Synthesis", or looking at everything surrounding a camera at long distances, and that distance to an object is not a factor in synthesizing panoramic images. Baker does not teach or suggest a distance sensor unit for sensing distances of closest objects in one or more overlap areas. Baker instead teaches selecting an object in front of the imagers for correcting convergence angle as explained in Baker paragraphs [0158]-[0163]:

> "[0158] The next step 858 includes correcting convergence angle, which compensates for off-axis positions of objects in terms of apparent interocular separation distances. ...
> [0160] Distance determination is accomplished through analysis of the stereoscopic image data without external sensors, although these may be used in conjunction with the design without limitation. However, some markets require non-intrusive sensing, and this can be done with passive stereo ranging.
> [0163] ... Combining the results from these equations completes the definition of a vector quantity that defines the location of object 908 in the 3-dimensional space in front of the imagers and the distance from the imagers to the object. This description is explanatory and may be calculated through combined equations or more efficient calculations in actual practice. However, triangulation is one preferred general method employed to determine distance information." [deletions and underlining for clarity]

It is respectfully submitted that Baker also does not teach or suggest the claimed distance sensor unit in Baker FIG. 10 or Baker paragraph [0174], which states:

> "[0174] The panoramic subsampler 1036 reduces the video data set, as needed, to prepare a set of wide-angle monoscopic display signals for driving one or more wide-angle monoscopic control displays 1044 from the wide-angle video bus 1042. ... The distance measurement processor 1038 uses the stereoscopic video data to determine distances to selected points or regions with the FOV..."

Applicant respectfully submits that above shows that the panoramic subsampler 1036 creates the Baker display and that the distance measurement processor 1038 uses the display data to determine distance. Thus, Baker operates in exactly the reverse fashion from the claimed invention. Baker paragraph [0176] explains the reason for distance measurement is for military use of the Baker system:

> "[0176] ... A motion processor 1110 then takes location and distance data over time to determine actual and predicted paths for the object. This information is optionally supplied to target buffers 1112, along with a vector determination module 1114, both of which feed an accessory camera or weapons interface 1118."

The Examiner continues:

> [Baker discloses] "a display unit for displaying the plurality of individual video images to a user for creating a visual experience of the location based on the sensed distances to the closest object (fig. 10: 1030, para 0172-0174)."

Applicant respectfully disagrees. Baker FIG. 10 and the Baker autostereoscopic display 1030 are not created from the sensed distances but work exactly the opposite way to use the information for creating the autostereoscopic display to determine the distance as further explained in Baker paragraphs [0172]-[0174]:

> "[0172] For video stream data that originates from diagonally disposed imagers, interpolated views are dynamically constructed by the interpolation processes 1020. These processes use convergence angle corrections 1022...
> [0173] ...sends the signals to twin display drivers 1026 for stereoscopic presentation. ...
> [0174] The panoramic subsampler 1036 reduces the video data set, as needed, to prepare a set of wide-angle monoscopic display signals... The distance measurement processor 1038 uses the stereoscopic video data to determine distances..." [deletions and underlining for clarity]

Based on the above, it is respectfully submitted that claim 1 is allowable under 35 U.S.C. §103(a) as being unpatentable over Baker because:

> "[T]he prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure." *In re* Vaeck, 947 F2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991)

Regarding claim 2, Applicant respectfully traverses the rejection since the Applicants' claimed combination includes the limitation not disclosed in Baker of:

> "a processor unit for determining a horizontal span of each individual video image displayed by the display unit based on the sensed distances of the closest objects."

The Examiner states:

> "Re claim 2, the system of claim 1 further comprising a processor unit for determining a horizontal span of each individual video image displayed by the display unit based on the sensed distances of the closest objects. (Figs. 10-11: 1056, para 0174-0177)."

Applicant respectfully disagrees. Baker Figs. 10-11: 1056 (identified in the FIGs. as a functional block diagram), and Baker paragraphs [0174]-[0177] do not teach or suggest the claimed limitation. Baker paragraph [0174] as explained for claim 1 teaches that Baker determines distance from the display rather than vice versa. Baker paragraphs [0175]-[0177] do not teach or suggest a processor for determining a horizontal span of a video image but rather tracking and modifying the appearance of an object:

> "[0175] FIG. 11 is a functional block diagram of an exemplary embodiment of the analytical module 1050, the function of which is to track moving objects within the FOV of the camera head 1002. ...
> [0176] ... The edges of the selected object are detected at step 1106, and a center region of the object is determined at step 1108 to make tracking easier. A motion processor 1110 then takes location and distance data over time to determine actual and predicted paths for the object. ...
> [0177] In addition, the edge and center information about the object being tracked is supplied to an effects processor 1116 for modifying the appearance of the object on the wide-angle display 1102. ... " [deletions and underling for clarity]

Based on the above, it is respectfully submitted that claim 2 is allowable under 35 U.S.C. §103(a) as being patentable over Baker because of *In re* Vaeck, *supra*.

Regarding claim 3, Applicant respectfully traverses the rejection since the Applicants' claimed combination includes the limitation not disclosed in Baker of:

> "The system of claim 2, comprising four location cameras in a square arrangement for capturing an outwardly directed 360° field of view of the location, and the display unit comprising four display screens in a square arrangement, each display screen arranged for displaying the individual video image of one of the location cameras to a user located inside the square screen arrangement."

The Examiner states:

> "Re claim 3, the system further comprising four location cameras in a square arrangement for capturing an outwardly directed 360° field of view of the location, and the display unit comprising four display screens in a square arrangement, each display screen arranged for displaying the individual video image of one the location cameras to a user located inside the square screen arrangement (figs. 5a-b, 6a-b, 7a-b)." [underlining for clarity]

Applicant respectfully submits that Baker Figs. 5a-b, 6a-b, and/or 7a-b showing fields-of-view do not show a user located inside a square screen arrangement.

Based on the above, it is respectfully submitted that claim 3 is allowable under 35 U.S.C. §103(a) as being patentable over Baker because of *In re* Vaeck, *supra*.

Regarding claims 6-8, 13, and 23-28, these dependent claims respectively depend from independent claim 1 and are believed to be allowable since they contain all the limitations set forth in the independent claim from which they depend and claim additional unobvious combinations. With regard to those claims providing a relationship with a user, Baker FIG. 15a only illustrates the equipment for a videoconferencing system embodiment and Baker paragraphs [0220]-[0231] do not teach or suggest the claimed relationship to a user with regard to the videoconferencing system so a *prima facie* case of obviousness has not been made. Applicant respectfully requests further information under 37 CFR §1.104(c)(2) as to where this relationship exists in Baker.

Regarding claims 11-12, 14-16, 21-22, Applicant respectfully traverses the rejections because it is respectfully submitted that the remarks regarding claims 1-2 are applicable for these claims also.

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Conclusion

Applicant appreciates the Examiner's attention to detail in this case and has made the changes suggested by the Examiner.

In view of the above, it is submitted that the claims are in condition for allowance and reconsideration of the rejections is respectfully requested. Allowance of claims 1-28 at an early date is solicited.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including any extension of time fees, to Deposit Account No. 08-2025 and please credit any excess fees to such deposit account.

Respectfully submitted,

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